FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
YARA Freeport LLC

AUTHORIZING THE OPERATION OF
BASF Freeport Site
Ammonia Production Plant
All Other Basic Organic Chemical Manufacturing

LOCATED AT
Brazoria County, Texas
Latitude 29° 0' 3" Longitude 95° 23' 47"
Regulated Entity Number: RN100218049

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: O3826 Issuance Date: January 10, 2018

For the Commission

Table of Contents

Section **Page**

General Terms and Conditions 1

Special Terms and Conditions: 1

- Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting 1
- New Source Review Authorization Requirements 6
- Compliance Requirements 6
- Risk Management Plan 8
- Temporary Fuel Shortages (30 TAC § 112.15) 8
- Permit Location 8
- Permit Shield (30 TAC § 122.148) 8

Attachments 9

- Applicable Requirements Summary 10
- Permit Shield 17
- New Source Review Authorization References 19

Appendix A 22

- Acronym List 23

Appendix B 24

General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:

    A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.

    B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

    C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

    D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

    E. Emission units subject to 40 CFR Part 63, Subparts ZZZZ and DDDDD, as identified in the attached Applicable Requirements Summary table, are subject to 30 TAC Chapter

113, Subchapter C, §113.1090 and §113.1130, respectively, which incorporates the 40 CFR Part 63 Subpart by reference.

F. For the purpose of generating emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 1 (Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 101.302 (relating to General Provisions)

(ii) Title 30 TAC § 101.303 (relating to Emission Reduction Credit Generation Certification)

(iii) Title 30 TAC § 101.304 (relating to Mobile Emission Reduction Credit Generation and Certification)

(iv) Title 30 TAC § 101.309 (relating to Emission Credit Banking and Trading)

(v) The terms and conditions by which the emission limits are established to generate the reduction credit are applicable requirements of this permit

G. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emission Cap and Trade Program) Requirements:

(i) Title 30 TAC § 101.352 (relating to General Provisions)

(ii) Title 30 TAC § 101.353 (relating to Allocation of Allowances)

(iii) Title 30 TAC § 101.354 (relating to Allowance Deductions)

(iv) Title 30 TAC § 101.356 (relating to Allowance Banking and Trading)

(v) Title 30 TAC § 101.358 (relating to Emission Monitoring and Compliance Demonstration)

(vi) Title 30 TAC § 101.359 (relating to Reporting)

(vii) Title 30 TAC § 101.360 (relating to Level of Activity Certification)

(viii) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit

H. For the purpose of generating discrete emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 4 (Discrete Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 101.372 (relating to General Provisions)

(ii) Title 30 TAC § 101.373 (relating to Discrete Emission Reduction Credit Generation and Certification)

(iii) Title 30 TAC § 101.374 (relating to Mobile Discrete Emission Reduction Credit Generation and Certification)

(iv) Title 30 TAC § 101.378 (relating to Discrete Emission Credit Banking and Trading)

(v) The terms and conditions by which the emission limits are established to generate the discrete reduction credit are applicable requirements of this permit

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements

B. Title 30 TAC § 101.3 (relating to Circumvention)

C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ

D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ

E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)

F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)

G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)

H. Title 30 TAC § 101.221 (relating to Operational Requirements)

I. Title 30 TAC § 101.222 (relating to Demonstrations)

J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1 , shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

(i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(1)(E)

(iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)

(iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that

does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

(1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.

(2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.

(3) Records of all observations shall be maintained.

(4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

  (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).

  (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is

determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

(c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

C. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:

(i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

(ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)

(iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

4. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:

A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)

B. Title 40 CFR § 60.8 (relating to Performance Tests)

C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)

D. Title 40 CFR § 60.12 (relating to Circumvention)

E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)

F. Title 40 CFR § 60.14 (relating to Modification)

G. Title 40 CFR § 60.15 (relating to Reconstruction)

H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

5. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

New Source Review Authorization Requirements

6. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:

    A. Are incorporated by reference into this permit as applicable requirements

    B. Shall be located with this operating permit

    C. Are not eligible for a permit shield

7. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.

8. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

9. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

10. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:

    A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:

        (i) For sources in the Houston-Galveston-Brazoria Nonattainment area, 30 TAC § 117.9020:

            (1) Title 30 TAC § 117.9020(2)(A), (C), and (D)

    B. The permit holder shall comply with the Initial Control Plan unit listing requirement in 30 TAC § 117.350(c) and (c)(1).

C. The permit holder shall comply with the requirements of 30 TAC § 117.354 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.356 for Revision of Final Control Plan.

11. Use of Emission Credits to comply with applicable requirements:

A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) Offsets for Title 30 TAC Chapter 116

B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)-(d)

(ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1

(iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)-(d)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122

(v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)

12. Use of Discrete Emission Credits to comply with the applicable requirements:

A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) If applicable, offsets for Title 30 TAC Chapter 116

(iv) Temporarily exceed state NSR permit allowables

B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)

(ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4

(iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

(v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Risk Management Plan

13. For processes subject to 40 CFR Part 68 and specified in 40 CFR § 68.10, the permit holder shall comply with the requirements of the Accidental Release Prevention Provisions in 40 CFR Part 68. The permit holder shall submit to the appropriate agency either a compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR § 68.10(a), or as part of the compliance certification submitted under this permit, a certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of a risk management plan.

Temporary Fuel Shortages (30 TAC § 112.15)

14. The permit holder shall comply with the following 30 TAC Chapter 112 requirements:

A. Title 30 TAC § 112.15 (relating to Temporary Fuel Shortage Plan Filing Requirements)

B. Title 30 TAC § 112.16(a), (a)(1), and (a)(2)(B) - (C) (relating to Temporary Fuel Shortage Plan Operating Requirements)

C. Title 30 TAC § 112.17 (relating to Temporary Fuel Shortage Plan Notification Procedures)

D. Title 30 TAC § 112.18 (relating to Temporary Fuel Shortage Plan Reporting Requirements)

Permit Location

15. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

16. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Unit Summary **11**

Applicable Requirements Summary **12**

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/ Inclusive Units	SOP Index No.	Regulation	Requirement Driver
16-1-2	Flares	N/A	111A-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
16-1-3	Process Heaters/Furnaces	N/A	117B-1	30 TAC Chapter 117, Subchapter B	No changing attributes.
16-1-3	Process Heaters/Furnaces	N/A	63DDDDD-1	40 CFR Part 63, Subpart DDDDD	No changing attributes.
16-1-4	SRIC Engines	N/A	117B-1	30 TAC Chapter 117, Subchapter B	No changing attributes.
16-1-4	SRIC Engines	N/A	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
16-1-4	SRIC Engines	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRP-TANKS1	Storage Tanks/Vessels	16-1-11, 16-1-13	115B-1	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRP-UNLOAD	Loading/ Unloading Operations	16-1-11UNL, 16-1-13UNL	115C-1	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
PRONH3	Cleaning/ Depainting Operation	N/A	115E-1	30 TAC Chapter 115, Subchapter E, Division 6	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
16-1-2	EU	111A-1	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.11(a).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
16-1-3	EU	117B-1	NO_X	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(8)(A)(i) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO_x emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C) § 117.8000(b) § 117.8000(c) § 117.8000(c)(1) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) § 117.8010(2)(C) § 117.8010(2)(D) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)
16-1-3	EU	117B-1	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B) § 117.310(c)(3)	CO emissions must not exceed 400 ppmv at 3.0% O 2, dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.8000(b) § 117.8000(c) § 117.8000(c)(2) § 117.8000(c)(3)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
							§ 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d) § 117.8120 § 117.8120(2) [G]§ 117.8120(2)(A) § 117.8120(2)(B)		[G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)
16-1-3	EU	63DDDDD-1	112(B) HAPS	40 CFR Part 63, Subpart DDDDD	§ 63.7505 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart DDDDD
16-1-4	EU	117B-1	EXEMPT	30 TAC Chapter 117, Subchapter B	[G]§ 117.303(a)(11) [G]§ 117.310(f)	Units exempted from the provisions of this division except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1) and 117.354(a)(5) include new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001, that operates less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and meets the requirements for non-road engines as specified. §117.303(a)(11)(A)-(B)	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
16-1-4	EU	60IIII-1	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 3.5 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
16-1-4	EU	60IIII-1	NMHC and NO_X	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than 560 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with an NMHC+NOx emission limit of 6.4 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)
16-1-4	EU	60IIII-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less	§ 60.4209(a)	§ 60.4214(b)	[G]§ 60.4214(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 89.112(a)	than 10 liters per cylinder and is a 2007 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).			
16-1-4	EU	63ZZZZ-1	EXEMPT	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(b)(1) § 63.6595(c) § 63.6640(f)(1) [G]§ 63.6640(f)(2) § 63.6640(f)(3)	An affected source which meets either of the criteria in paragraphs §63.6590(b)(1)(i)-(ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).	None	None	§ 63.6645(c) § 63.6645(f)
GRP-TANKS1	EU	115B-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
GRP-UNLOAD	EU	115C-1	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(1) § 115.212(a)(2) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
PRONH3	PRO	115E-1	VOC	30 TAC Chapter 115, Subchapter E, Division 6	§ 115.461(a) [G]§ 115.463(d)	Solvent cleaning operations located on a property with total actual volatile organic compounds (VOC) emissions of less than 3.0 tons per calendar year from all cleaning solvents, when uncontrolled, are exempt from the requirements of this division, except as specified in §115.468(b)(2) of this title. When calculating the VOC emissions, solvents used for cleaning operations that are exempt from this division under subsections (b)-(e) of this section are excluded.	None	§ 115.468(b)(2) § 115.468(b)(5)	None

Permit Shield

Permit Shield 18

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
16-1-2	N/A	40 CFR Part 60, Subpart A	Flare is not used to comply with applicable subparts of 40 CFR Parts 60 and 61.
16-1-2	N/A	40 CFR Part 63, Subpart A	Flare is not used to comply with the applicable subparts of 40 CFR Part 63.
16-1-5	N/A	30 TAC Chapter 115, Vent Gas Controls	Analyzer vent does not emit VOCs.
16-1-CT	N/A	30 TAC Chapter 115, HRVOC Cooling Towers	Cooling tower heat exchange system does not have the potential to emit HRVOCs.
16-1-CT	N/A	40 CFR Part 63, Subpart Q	Industrial process cooling tower does not operate with chromium-based water treatment chemicals after 09/08/1994.
16-1-FUG	N/A	30 TAC Chapter 115, HRVOC Fugitive Emissions	Site is not a petroleum refinery, synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process, or a natural gas/gasoline processing operation that contain HRVOCs.
16-1-FUG	N/A	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	Site is not a petroleum refinery, synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process, or a natural gas/gasoline processing operation.
GRP-TANKS1	16-1-11, 16-1-13	40 CFR Part 60, Subpart Kb	Storage vessel capacity is less than 75 m3.

New Source Review Authorization References

New Source Review Authorization References 20

New Source Review Authorization References by Emission Unit 21

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Nonattainment (NA) Permits	
NA Permit No.: N200	Issuance Date: 08/30/2017
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 118239	Issuance Date: 08/30/2017
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
16-1-11	DIESEL STORAGE TANK	118239, N200
16-1-11UNL	DIESEL UNLOADING	118239, N200
16-1-13	LUBE OIL STORAGE TANK	118239, N200
16-1-13UNL	LUBE OIL UNLOADING	118239, N200
16-1-2	NORMAL OPERATIONS FLARE	118239, 106.261/11/01/2003, 106.262/11/01/2003, N200
16-1-3	STARTUP HEATER	118239, N200
16-1-4	CATERPILLAR GCPXL32 CI ICE - 1120 KW	118239, N200
16-1-5	ANALYZER VENTS	118239, N200
16-1-CT	COOLING TOWER	118239, N200
16-1-FUG	FUGITIVE EMISSIONS	118239, N200
PRONH3	AMMONIA PRODUCTION PROCESS	118239, N200

Appendix A

Acronym List 23

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM ..... actual cubic feet per minute
AMOC ..... alternate means of control
ARP ..... Acid Rain Program
ASTM ..... American Society of Testing and Materials
B/PA ..... Beaumont/Port Arthur (nonattainment area)
CAM ..... Compliance Assurance Monitoring
CD ..... control device
CEMS ..... continuous emissions monitoring system
CFR ..... Code of Federal Regulations
COMS ..... continuous opacity monitoring system
CVS ..... closed vent system
D/FW ..... Dallas/Fort Worth (nonattainment area)
EP ..... emission point
EPA ..... U.S. Environmental Protection Agency
EU ..... emission unit
FCAA Amendments ..... Federal Clean Air Act Amendments
FOP ..... federal operating permit
gr/100 scf ..... grains per 100 standard cubic feet
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... hydrogen sulfide
ID No. ..... identification number
lb/hr ..... pound(s) per hour
MACT ..... Maximum Achievable Control Technology (40 CFR Part 63)
MMBtu/hr ..... Million British thermal units per hour
NA ..... nonattainment
N/A ..... not applicable
NADB ..... National Allowance Data Base
NESHAP ..... National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
NO_x ..... nitrogen oxides
NSPS ..... New Source Performance Standard (40 CFR Part 60)
NSR ..... New Source Review
ORIS ..... Office of Regulatory Information Systems
Pb ..... lead
PBR ..... Permit By Rule
PEMS ..... predictive emissions monitoring system
PM ..... particulate matter
ppmv ..... parts per million by volume
PRO ..... process unit
PSD ..... prevention of significant deterioration
psia ..... pounds per square inch absolute
SIP ..... state implementation plan
SO_2 ..... sulfur dioxide
TCEQ ..... Texas Commission on Environmental Quality
TSP ..... total suspended particulate
TVP ..... true vapor pressure
U.S.C. ..... United States Code
VOC ..... volatile organic compound

Appendix B

Major NSR Summary Table 25

Major NSR Summary Table

Permit Numbers: 118239 & N200					Issuance Date: August 30, 2017		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name(3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Spec. Cond**	**Spec. Cond**	**Spec. Cond**
16-1-4	Emergency Diesel Generator	CO	0.42	0.01	4, 5, 12, 13	4, 5, 12, 13, 18, 25	4, 5
		NO_x	15.99	0.42			
		PM	0.06	<0.01			
		PM_{10}	0.06	<0.01			
		$PM_{2.5}$	0.06	<0.01			
		SO_2	0.02	<0.01			
		VOC	0.03	<0.01			
16-1-5	Analyzer Vents	NH_3	0.01	0.05		GC7	
16-1-11	Diesel Tank	VOC	0.06	<0.01	4	4, 11, 21	4
16-1-13	Lube Tank	VOC	0.01	<0.01	4	4, 11, 21	4
16-1-CT	Cooling Tower	PM	0.45	1.53	8	8, 25	
		PM_{10}	0.23	0.77			
		$PM_{2.5}$	0.01	0.02			
		NH_3	0.01	0.02			
16-1-FUG	Fugitives (5)	NH_3	0.51	2.23	16, 20	16, 25	
16-1-MSS	MSS Chemical Usage, PSVs	VOC	0.63	0.11	21, 23	18, 21, 23	
		NH_3	0.10	<0.01			
		NO_x	0.02	<0.01			
16-1-2	Flare Normal Operations	CO	0.34	1.48	7, 13	7, 13, 25	
		NO_x	1.41	5.86			
		PM	0.09	0.40			
		PM_{10}	0.09	0.40			
		$PM_{2.5}$	0.09	0.40			
		SO_2	0.01	0.03			
		VOC	<0.01	0.01			
		NH_3	0.44	1.70			

Major NSR Summary Table

Permit Numbers: 118239 & N200					Issuance Date: August 30, 2017		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name(3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Spec. Cond**	**Spec. Cond**	**Spec. Cond**
	Depressurization Emissions to Flare (6)	CO	38.69	0.17	17, 19, 21, 22	17, 18, 19, 21, 22, 25	17
		NO_x	287.62	5.15			
		SO_2	0.05	<0.01			
		VOC	0.48	<0.01			
		PM	19.90	0.40			
		PM_{10}	19.90	0.40			
		$PM_{2.5}$	19.90	0.40			
		NH_3	462.41	1.58			
	Flare Startup MSS	CO	38.69	0.14	22	17, 18, 21, 22, 25	17
		NO_x	287.62	3.90			
		PM	11.82	0.33			
		PM_{10}	11.82	0.33			
		$PM_{2.5}$	11.82	0.33			
		SO_2	0.04	<0.01			
		VOC	0.38	<0.01			
		NH_3	138.93	0.85			
	Flare Shutdown MSS	CO	20.15	0.03	22	17, 18, 21, 22, 25	17
		NO_x	238.53	0.61			
		SO_2	0.02	<0.01			
		VOC	0.20	<0.01			
		PM	19.90	0.05			
		PM_{10}	19.90	0.05			
		$PM_{2.5}$	19.90	0.05			
		NH_3	462.41	0.28			
	Ammonia Recovery System Maintenance Emissions to Flare	CO	7.70	0.28	21	21, 22, 25	
		NO_x	8.20	0.30			
		SO_2	0.01	<0.01			

Major NSR Summary Table

Permit Numbers: 118239 & N200					Issuance Date: August 30, 2017		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name(3)**	**Emission Rates**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Spec. Cond**	**Spec. Cond**	**Spec. Cond**
		PM	0.11	<0.01			
		PM_{10}	0.11	<0.01			
		$PM_{2.5}$	0.11	<0.01			
		VOC	0.08	<0.01			
		NH_3	5.40	0.19			
	Ammonia Catalyst Reduction Emissions to Flare	NO_x	49.58	4.02		22, 25	
		PM	0.36	0.44			
		PM_{10}	0.36	0.44			
		$PM_{2.5}$	0.36	0.44			
		NH_3	2.98	0.25			
16-1-3	Ammonia Start-Up Heater MSS	CO	3.52	0.53	4, 5, 10, 24	4, 5, 10, 18, 24, 25	4, 5, 24
		NO_x	3.42	0.51			
		PM	0.72	0.11			
		PM_{10}	0.72	0.11			
		$PM_{2.5}$	0.72	0.11			
		SO_2	0.06	0.01			
		VOC	0.48	0.07			
		Lead	<0.01	<0.01			

Footnotes:

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
NH_3 - Ammonia
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Controlled depressurization activities are only authorized if they are conducted in accordance with Special Condition No. 17.

Texas Commission on Environmental Quality
Air Quality Permit

A Permit Is Hereby Issued To
Yara Freeport LLC
Authorizing the Construction and Operation of
BASF Freeport Site
Located at **Freeport, Brazoria County, Texas**
Latitude 29° 0′ 3″ Longitude 95° 23′ 47″

Permits: 118239 and N200

Amendment Date: August 30, 2017

Expiration Date: April 1, 2025

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] [1]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] [1]
9. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. [1]

[1] Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Special Conditions

Permit Numbers 118239 and N200

1. This permit authorizes ammonia production operations for a facility located at Freeport, Brazoria County, Texas.

   This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" (MAERT), and those sources are limited to the emission limits and other conditions specified in that table.

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the MAERT. Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

3. Emissions from the facilities shall comply with part 30 of the Texas Administrative Code section 101.4 (30 TAC § 101.4) regarding nuisance. If compliance with 30 TAC § 101.4 so requires, the permit shall be amended to control nuisance-causing emissions either through process controls or additional emission controls.

Federal Applicability

4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):

   A. Subpart A, General Provisions.

   B. Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

   C. Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels).

   D. Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

5. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:

   A. Subpart A, General Provisions.

   B. Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

   C. Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers And Process Heaters.

6. The ammonia production facility shall not add any units between 30 and 40 MMBtu /hr under 30 TAC § 106.183 for the 3 years from the start of operation of the facilities covered by this permit without the written approval of the TCEQ Executive Director unless the heaters meet 0.011 lb. NO_x /MMBtu fired duty.

Emission Standards and Operational Specifications

7. Flares shall be designed and operated in accordance with the following requirements:

   A. The flare systems shall be designed such that the combined assist natural gas and waste stream to the flare meets the 40 CFR § 60.18 specifications of minimum heating value or hydrogen content and maximum tip velocity, when emissions are vented to the flare.

      The heating value and velocity requirements shall be satisfied during operations authorized by this permit.

   B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed at a frequency in accordance with, the manufacturer's specifications.

   C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

   D. The permit holder shall install a continuous flow monitor that provides a record of the vent stream flow to the flare. The flow monitor and calorimeter sensors shall be installed in the vent stream such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and Btu/hydrogen content shall be recorded each hour, and shall be used to determine compliance with heat content and maximum tip velocity limits.

      The monitors shall be calibrated or have a calibration check performed on an annual basis to meet the following accuracy specifications: the flow monitor shall be ±5.0%, temperature monitor shall be ±2.0% at absolute temperature, and pressure monitor shall be ±5.0 mm Hg;

   E. The hydrogen or BTU monitor shall be calibrated, installed, operated, and maintained, in accordance with manufacturer recommendations.

   F. The monitors shall operate as required by this section at least 95% of the time when the flare is operational, averaged over a rolling 12 month period. Flared gas actual exit velocity determined in accordance with 40 CFR §§60.18(f)(3) and 60.18(f)(4) shall be recorded at least once every hour. Hourly mass emission rates shall be determined and recorded using the above readings and the emission factors used in the permit application PI-1 dated March 17, 2014.

8. The cooling tower (EPN 16-1-CT) shall be operated and monitored in accordance with the following:

   A. Cooling tower water shall be analyzed for ammonia using one of the following methods:

      (1) Cooling water shall be sampled and analyzed at least once per month for ammonia using an appropriate EPA or ASTM method; or

      (2) An online NH_3 analyzer shall be installed, calibrated and operated in accordance with the manufacturer's specifications. The analyzer will take at least one sample per day.

   B. Cooling water ammonia concentrations above 50 ppmw indicate faulty equipment. Equipment shall be maintained to minimize ammonia emissions into the cooling water.

Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs.

C. Each cooling tower shall be equipped with drift eliminators having manufacturer's design assurance of 0.0005% drift or less. Drifts eliminators shall be maintained and visually inspected annually. The permit holder shall maintain records of all inspections and repairs.

D. The cooling water flow rate is not to exceed 40,000 gallons per minute.

E. Total dissolved solids (TDS) shall not exceed 3,500 parts per million by weight (ppmw) on an annual basis, or 4,500 ppmw for any single sample. Dissolved solids in the cooling water drift are considered to be emitted as PM, PM_{10}, and $PM_{2.5}$ as represented in the permit application calculations.

F. Cooling towers shall be analyzed for particulate emissions using one of the following methods:

(1) Cooling water shall be sampled at least once per week for total dissolved solids (TDS); or

(2) TDS monitoring may be reduced to quarterly if conductivity is monitored daily and TDS is calculated using a correlation factor established for each cooling tower. The correlation factor shall be the average of nine consecutive weekly TDS-to-conductivity ratios determined using Special Condition 8.F provided the highest ratio is not more than 10% larger than the smallest ratio.

The permit holder shall validate the TDS-to-conductivity correlation factor once each calendar quarter. If the ratio of concurrently sampled TDS and conductivity is more than 10% higher or lower than the established factor, the permit holder shall increase TDS monitoring to weekly until a new correlation factor can be established.

G. Cooling water sampling required in item F shall be representative of the cooling tower feed water and shall be conducted using approved methods.

(1) The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, or SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. Water samples should be capped upon collection, and transferred to a laboratory area for analysis. Short term and annual average emission rates of PM, PM_{10} and $PM_{2.5}$ shall be calculated using the measured TDS, the design drift rate and the daily maximum and average actual cooling water circulation rate. Alternately, the design maximum circulation rate may be used for all calculations.

(2) The analysis method for conductivity shall be either ASTM D1125-95A (field or routine laboratory testing) or ASTM D1125-95B (continuous monitor). The analysis may be conducted at the sample site or with a calibrated process conductivity meter. If a conductivity meter is used, it shall be calibrated at least annually. Documentation of the method and any associated calibration records shall be maintained.

(3) Alternate sampling and analysis methods may be used to comply with G(1) and G(2) with written approval from the TCEQ Regional Director.

(4) Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.

H. Short term and annual emission rates of PM, PM_{10} and $PM_{2.5}$ shall be calculated using the measured TDS and the ratio or correlation of TDS to conductivity measurements, the design drift rate and the daily maximum and annual average cooling water circulation rate,

respectively. Alternately, the design maximum circulation rate may be used for all calculations. Emission records shall be updated monthly.

9. Tanks, EPNs 16-1-11 and 16-1-13, are limited to storing the following liquids: diesel and lube oil, respectively.

10. Emissions Standards and Operating Specifications for the Start-up Heater (EPN 16-1-3). **(08/17)**

A. The heater is limited to firing no more than 95.0 MMBtu/hr on an hourly average based on the higher heating value (HHV) of the fuel, and the heat input is limited to 85 MMBTU/hr on a 24-hour average. The heater is limited to firing 14,280 MMBtu and 168 hours per rolling 12-month period for years where catalyst reduction is not performed. The heater is limited to 366 hours per rolling 12-month period for years where catalyst reduction is performed

B. EPN 16-1-3 shall be fired with natural gas containing no more than 5 grains of total sulfur per 100 dry standard cubic feet (dscf).

C. Emissions from EPN 16-1-3 shall not exceed 0.036 lb NOx/MMBtu on an hourly average based on the higher heating value.

D. The concentration of CO from the exhaust gas of each stack shall not exceed 50 ppmvd corrected to 3 percent O_2, on a one hour average. This is to be demonstrated during initial compliance testing.

The permit holder shall install and operate a totalizing fuel flow meter to measure the gas fuel usage for the heater and fuel usage shall be recorded every 24-hours or at least once for each operational period. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 5 percent.

The flowmeter shall be capable of averaging fuel input on an hourly basis, and record rolling 24-hour average heat input measurements.

During periods when the fuel flow meter is inoperable and the heater is running, it shall be assumed and recorded that the heater is using its maximum firing rate of 95.0 MMBtu/hr.

Quality assured (or valid) data must be generated when the heater is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of flowmeter break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the heater operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

11. Storage tanks are subject to the following requirements:

A. Except for labels, logos, etc. not to exceed 15 percent of the tank total surface area, uninsulated tank exterior surfaces exposed to the sun shall be white or unpainted aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

B. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all storage tanks during the previous calendar month and the past consecutive 12 month period. The record shall include tank identification number, control method used, tank capacity in gallons, name of the material stored, VOC molecular weight, VOC monthly

average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month and year-to-date. Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures.

Emissions from tanks shall be calculated using the methods that were used to determine the MAERT limits in the permit application. Sample calculations from the application shall be attached to a copy of this permit at the plant site.

12. The emergency engine (EPN 16-1-4) shall comply with the following requirements:

    A. Satisfy the requirements for a 40 CFR part 89 Tier 2 engine.

    B. Shall only be fired with diesel fuel containing no more than 15 parts per million sulfur by weight.

    Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel or shall allow air pollution control agency representatives to obtain a sample for analysis.

    C. Is limited to no more than 52 hours per rolling 12-month period of non-emergency operation. This engine must be equipped with a non-resettable runtime meter. Records of the hours of operation shall be kept for 5 years.

13. Opacity of emissions from all stationary combustion sources shall not exceed five percent averaged over a six-minute period from each stack. This determination shall be made by first observing for visible emissions while each facility is in normal operation. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point(s). Up to three emissions points may be read concurrently, provided that all three emissions points are within a 70 degree viewing sector or angle in front of the observer such that the proper sun position (at the observer's back) can be maintained for all three emission points. If visible emissions are observed from an emission point, then the opacity shall be determined and documented within 24 hours for that emission point using 40 CFR Part 60, Appendix A, Test Method 9. Observations shall be performed and recorded yearly or at the next planned usage of the device, whichever is less frequent. If conditions do not allow for proper observation during the planned usage, that shall be recorded and the observation shall be postponed until the next planned usage. If the opacity exceeds five percent, corrective action to eliminate the source of visible emissions shall be taken promptly and documented within one week of first observation.

Ammonia (NH_3) Handling

14. The holder of this permit shall maintain an emergency response plan at the plant site. This plan shall describe the course of action to be taken by company personnel in the event of an ammonia upset or a severe ammonia leak. This plan shall include notification to the proper civil authorities and any other appropriate organizations, and any potentially affected residences.

15. There shall be at least one operator or qualified supervisor on duty at all times during facility operation.

Leak Detection and Repair

16. Piping, Valves, Pumps, and Compressors in Ammonia Service- 28AVO

A. Audio, olfactory, and visual checks for ammonia leaks within the operating area shall be made every 12 hours.

B. Immediately, but no later than one hour upon detection of a leak, plant personnel shall initiate one of the following actions:

(1) Isolate the leak.

(2) Commence repair or replacement of the leaking component.

(3) Use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible.

Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the Texas Commission on Environmental Quality (TCEQ) upon request.

C. The physical inspection program shall be supplemented with a network of ambient monitors. The ambient monitors shall be tied to a central system that will be used to help pinpoint leaks.

D. Ambient monitors will be checked or tested per manufacturer recommendation, if available. Otherwise, the monitor shall be tested or checked annually. Records will be kept of monitor testing for 5 years.

Intermittent Emissions

17. This condition applies to intermittent emissions from the Flare (EPN 16-1-2)

A. Intermittent events sending emissions to the flare are authorized by this permit up to 3 times during any rolling 12-month period. These events are only authorized if they are caused by either the depressurization of the ammonia synthesis loop, feed gas section, or ammonia chiller. Emissions are limited to rates specified on the MAERT for EPN 16-1-2 MSS scenarios. Specifically, these events are limited as follows: **(08/17)**

(1) Synthesis Loop Trip: two events per 12-month rolling period and

(2) Refrigeration Section Trip: one event per 12-month rolling period

Or

(3) Synthesis Loop Trip: three events per 12-month rolling period

The same 12-month rolling period shall be used for events described in (1) through (3) above.

B. Events caused by poor design, maintenance or operation of the permitted facilities are not authorized by this condition.

C. The owner or operator of a facility shall create a final record of each instance of flaring authorized under this condition as soon as practicable, but no later than two weeks after the

start of the event. The owner or operator shall keep these records readily available and submit to TCEQ upon request. Such records shall identify:

(1) The root cause of the emissions as per Attachment D;

(2) The processes and equipment involved;

(3) The date and time of the flaring activity;

(4) The duration of the flaring activity;

(5) The compounds emitted;

(6) The estimated quantities for those compounds; and

(7) The actions taken or being taken to minimize the emissions.

D. Once 2 calendar years of operating data are available, the owner or operator shall submit a report to TCEQ regional office either justifying retention of the current limits or justifying new emission limits for intermittent emissions. The report shall be submitted by July 1 the year following the completion of the second calendar year of operation and an additional report shall be submitted every year thereafter. The last four years' worth of these reports shall be submitted with any amendment or renewal of the permit. These reports shall be kept on site for 5 years.

Planned Maintenance, Startup and Shutdown

18. Planned maintenance, startup, and shutdown (MSS) activities are summarized in the MSS Activity Summary (Attachment C) attached to this permit.

Attachment A identifies the inherently low emitting MSS activities that may be performed at the plant. Emissions from activities identified in Attachment A shall be considered to be equal to the potential to emit represented in the permit application. The estimated emissions from the activities listed in Attachment A must be revalidated annually. This revalidation shall consist of the estimated emissions for each type of activity and the basis for that emission estimate. **(08/17)**

Routine maintenance activities, as identified in Attachment B may be tracked through the work orders or equivalent. Emissions from activities identified in Attachment B shall be calculated using the number of work orders or equivalent that month and the emissions associated with that activity identified in the permit application.

The performance of each planned MSS activity not identified in Attachment B and the emissions associated with it shall be recorded and include at least the following information:

A. the process unit at which emissions from the MSS activity occurred, including the emission point number and common name of the process unit;

B. the type of planned MSS activity;

C. the common name and the facility identification number, if applicable, of the facilities at which the MSS activity and emissions occurred;

D. the date of the MSS activity;

E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the permit application, consistent with good engineering practice.

All MSS emissions shall be summed monthly and the rolling 12-month emissions shall be updated on a monthly basis.

19. Process units and facilities shall be depressurized, emptied, degassed, and placed in service in accordance with the following requirements.

    A. The process equipment shall be depressurized to a control device or a controlled recovery system prior to venting to atmosphere, degassing, or draining liquid. Equipment that only contains material with < 25 ppm ammonia may be opened to atmosphere and drained in accordance with paragraph C of this special condition. Process Safety Valves located on the flare header shall be depressurized to the flare header down to 1 psig (header pressure) prior to opening the associated piping to the atmosphere. **(08/17)**

    B. Ammonia-containing wastewater from the ammonia recovery process shall hard-piped to the wastewater treatment plant. **(08/17)**

    C. If the ammonia is greater than 25 ppm, facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system through the control device or controlled recovery system to the extent allowed by process equipment or storage vessel design. The facilities to be degassed shall not be vented directly to atmosphere, except as necessary to establish isolation of the work area or to monitor ammonia concentration following controlled depressurization. The venting shall be minimized to the maximum extent practicable and actions taken recorded. The control device or recovery system utilized shall be recorded with the estimated emissions from controlled and uncontrolled degassing calculated using the methods that were used to determine allowable emissions for the permit application.

    D. Gases and vapors with ammonia > 25 ppm may be vented directly to atmosphere if all the following criteria are met:

        (1) It is not technically practicable to depressurize or degas, as applicable, into the process.

        (2) There is not an available connection to a plant control system (flare).

        (3) There is no more than 50 lb of air contaminant to be vented to atmosphere during the shutdown or startup event, as applicable.

    All instances of venting directly to atmosphere per Special Condition D must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in the work order or equivalent for those planned MSS activities identified in Attachment B.

20. Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must monitor per the AVO program.

21. Additional occurrences of MSS activities authorized by this permit may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity.

22. The MSS events listed below, as defined in the permit amendment application dated May 27, 2016, shall comply with the following limitations: **(08/17)**

    A. Clearing Ammonia Pipeline to Flare (EPN 16-1-2). This clearing procedure is limited to:

        (1) Maximum 8000 lbs/hour ammonia to flare during the event.

        (2) Maximum 96,000 lbs ammonia per event.

    B. NH_3 Recovery Outage: 72 hours per 12-month rolling period.

    C. Cold Start-up: one event per 12-month rolling period. A cold start-up is defined as planned startup where flaring of synthesis loop gas occurs. This does not include intermittent events.

    D. Cold Shutdown: one event per 12-month rolling period. A cold shutdown is defined as any planned shutdown where the amount of gas flared from the synthesis loop is more than to 10% of the maximum capacity of the synthesis loop. This does not include intermittent events.

    E. Warm Start-up: two events per 12-month rolling period. A warm start-up is any planned startup where no flaring of synthesis loop gas occurs. This does not include intermittent events.

    F. Warm Shutdown: two events per 12-month rolling period. A warm shutdown is defined as any planned shutdown where the amount of gas flared from the synthesis loop is less than or equal to 10% of the maximum capacity of the synthesis loop. This does not include intermittent events.

    G. At the option of the permit holder, three warm start-ups may be substituted for two warm start-ups/ one cold start-up in the same 12-month rolling period.

    H. Catalyst reduction is limited to one event per rolling 12-month period. Emissions for catalyst reduction operations will be offset in accordance with Special Condition 30.

    The maximum capacity of gas in the synthesis loop is represented in the confidential portion of the permit application.

    The cold and warm start-up and shutdown and catalyst reduction events described in SC 22. C.-H. are authorized in addition to start-up and shutdown activities included in “Intermittent Events” listed in SC 17. The same 12-month rolling period will be used for events described in SC 22. C.-H.

23. Ammonia concentrations for MSS activities that discharge to the atmosphere shall be measured using an instrument/detector meeting the requirements specified below. **(08/17)**

    A. Ammonia detectors used to verify ammonia gas concentrations for MSS activities shall be calibrated within 30 days of use with a certified ammonia gas standard (or quarterly if recommended by the manufacturer). Instruments shall be calibrated in accordance with the vendor’s recommended practice. Records of the calibration date/time and calibration result (pass/fail) shall be maintained. Detectors failing calibration shall not be used until repairs to the detector are made according to the vendor’s recommendations or published procedures and the detector successfully passes a calibration performed by the permit holder. Ammonia detectors used for this purpose shall have a maximum span value of 100 ppm or less. Calibrations shall use an ammonia standard between 20 and 30 ppm.

    B. A functionality test shall be performed on each detector within 24 hours of use with a certified ammonia gas standard between 20 and 30 ppm. The monitor shall read within 90% of the

calibration gas value. Records, including the date/time and test result (pass/fail), shall be maintained.

Initial Determination of Compliance

24. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the heater (EPN 16-1-3) to demonstrate compliance with the MAERT and Special Condition No. 10. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual and the U.S. Environmental Protection Agency (EPA) Reference Methods.

Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60) testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

A. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

(1) Proposed date for pretest meeting.

(2) Date sampling will occur.

(3) Name of firm conducting sampling.

(4) Type of sampling equipment to be used.

(5) Method or procedure to be used in sampling.

(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.

(7) Parameters to be used to determine worst case emissions shall be MMBtu/hr.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

B. Air contaminants emitted from the heater to be tested for include (but are not limited to) CO, and NO_x.

C. The heater shall be tested at the first instance that the permit holder performs a cold start-up or catalyst reduction under conditions as represented in the permit amendment application dated May 27, 2016 and subsequent updates. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Requests for additional time to perform sampling shall be submitted to the appropriate regional office. Permit allowable emissions and

emission control requirements are not waived and still apply during stack testing periods. **(08/17)**

D. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the appropriate TCEQ Regional Office.

One copy to each local air pollution control program.

(1) Sampling ports and platform(s) shall be incorporated into the design of (source stack and EPN) according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities" of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

Recordkeeping

25. The permit holder shall create the following records and retain for five years from the date of the record: **(08/17)**

A. Flare: hourly vent stream flow and heating values or hydrogen content as described by SC 7.

B. For the Cooling Tower

(1) Results of ammonia sampling described in SC 8. A

(2) Repairs made in response to ammonia concentration exceedances described in SC 8.B.

(3) Results of TDS sampling as described in SC 8. F and G.

(4) Mass emission rate calculations as described in SC 8.H.

C. Start-up Heater fuel flow meter measurements as described in SC 10 on an hourly and 24-hour average basis.

D. Monthly records of non-emergency running of the emergency engine as described in SC 12.

E. Leak repairs made in accordance with SC 16.B.

F. Ambient monitor checking or testing per SC 16.D.

G. Intermittent Events as described in SC 17.A. and C.

H. MSS events as described in SC 22. in the following manner:

(1) Clearing Ammonia Pipeline to Flare (EPN 16-1-2): maximum ammonia rate and total ammonia mass flared during the event.

(2) NH_3 Recovery Outage: cumulative hours in a rolling 12-month period, recorded monthly. The permit holder may skip months in this record when an NH_3 recovery event did not take place.

(3) Start-up and shutdown events described in 22.C. through G. for type (warm or cold) and day/month/year recorded monthly. The permit holder may skip months in this record when none of those events took place.

(4) Catalyst reduction events described in 22.H, including start date and time, and quantity of pollutants emitted.

Netting and Offsets

26. This Nonattainment New Source Review (NNSR) permit is issued/approved based on the requirement that the permit holder offset the project emission increase for facilities authorized by this permit prior to the commencement of operation, through participation in the TCEQ Emission Banking and Trading (EBT) Program in accordance with the rules in 30 TAC Chapter 101, Subchapter H. **(08/17)**

27. The permit holder shall use 22.7 tons per year (tpy) of NOx credits to offset the 17.42 tpy NO_X project emission increase for the facilities authorized by this permit at a ratio of 1.3 to 1.0. **(08/17)**

28. Prior to the commencement of operation, the permit holder shall obtain approval from the TCEQ EBT Program for the credits being used and then submit a permit alteration or amendment request to the TCEQ Air Permits Division (and copy the TCEQ Regional Office) to identify approved credits by TCEQ credit certificate number. **(08/17)**

29. In addition to, or in place of, using credits as described in SC 27, the permit holder may use up to 0.4 tpy of Mass Emission Cap and Trade (MECT) allowances to offset the 0.26 tpy NO_X project emission increase for the following MECT facilities authorized by this permit at a ratio of 1.3 to 1.0: **(08/17)**

    Start-up heater (EPN 16-1-3)

30. In addition to using credits described in SC 27, the permit holder shall use 5.6 tpy of NO_X credits (Emission Reduction credits and/or Discrete Emission Reduction Credits) to offset the 4.27 tpy NO_X project emission increase for the catalyst reduction activities authorized by this permit for the Flare EPN 16-1-2 and Start-up heater EPN 16-1-3 at a ratio of 1.3 to 1.0. The total amount of offsets are required during any calendar year when the catalyst reduction activities occur. No offsets are required for any calendar year when the catalyst reduction activities do not occur. Credits need to be provided and approved in advance of the activities. **(08/17)**

Attachment A

Inherently Low Emitting Activities

Activity	Emissions				
	VOC	NO_x	CO	PM	H_2S/SO_2
Aerosol Cans and Solvent Usage	x				

Date: August 30, 2017

Attachment B

Routine Maintenance Activities

Pump repair/replacement

Fugitive component (valve, pipe, flange) repair/replacement

Compressor repair/replacement

Heat exchanger repair/replacement

Vessel repair/replacement

Process Safety Valve Removal – Large Valves[1]

Process Safety Valve Removal – Small Valves[2]

Equipment Openings (≤ 30 scf and 25 ppmv NH_3)

Date: August 30, 2017

[1] A large PSV is defined as any PSV attached to the flare header.
[2] A small PSV is any PSV not attached to the flare header.

Attachment C

MSS Activity Summary

Facilities	**Description**	**Emissions Activity**	**EPN**
all process units	process unit shutdown/depressurize/drain	vent to flare	16-1-2
all process units	preparation for facility/component repair/replacement	vent to flare	16-1-2
all process units and tanks except MSS startup heater	recovery from facility/component repair/replacement	vent to flare	16-1-2
MSS startup heater	Process unit startup	vent to atmosphere	16-1-3
Emergency Engine	Routine testing	vent to atmosphere	16-1-4
all process units	Attachment A activities	vent to atmosphere	16-1-MSS
all process units except initial venting of large PSVs	Attachment B activities	vent to atmosphere	16-1-MSS
Large PSV maintenance	Attachment B activity	vent to flare prior to vent to atmosphere	16-1-MSS

Date: August 30, 2017

Attachment D

Root Cause Failure Analysis Requirements

The facility shall investigate each unplanned ammonia-flaring incident and record the results of the investigation within 42 days of the end of the incident. The investigation shall include:

(i) the date and time the flaring incident started and ended;

(ii) an estimate of the quantity of ammonia emissions, including supporting calculations;

(iii) steps taken to limit the duration and/or quantity of ammonia emissions;

(iv) an analysis of the root cause of the incident; and

(v) an analysis of corrective actions, if any, that are available to reduce the likelihood of a recurrence of the incident from the same root cause.

(vi) The facility shall document any corrective actions taken within 42 days following the incident, and document the schedule for completion of any other corrective actions proposed to be completed. Records of such investigations and corrective actions completed shall be kept on site.

A single root cause analysis may be used for ammonia flaring root causes that occur routinely. Where the site has previously analyzed ammonia incidents related to startup and shutdown, it may refer to those analyses when evaluating later incidents. Records of such investigations and corrective actions shall be kept on site.

Date: August 30, 2017

Emission Sources - Maximum Allowable Emission Rates

Permit Number 118239 & N200

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name(3)	Emission Rates	
			lbs/hour	TPY (4)
16-1-4	Emergency Diesel Generator	CO	0.42	0.01
		NO_x	15.99	0.42
		PM	0.06	<0.01
		PM_{10}	0.06	<0.01
		$PM_{2.5}$	0.06	<0.01
		SO_2	0.02	<0.01
		VOC	0.03	<0.01
16-1-5	Analyzer Vents	NH_3	0.01	0.05
16-1-11	Diesel Tank	VOC	0.06	<0.01
16-1-13	Lube Tank	VOC	0.01	<0.01
16-1-CT	Cooling Tower	PM	0.45	1.53
		PM_{10}	0.23	0.77
		$PM_{2.5}$	0.01	0.02
		NH_3	0.01	0.02
16-1-FUG	Fugitives (5)	NH_3	0.51	2.23
16-1-MSS	MSS Chemical Usage, PSVs	VOC	0.63	0.11
		NH_3	0.10	<0.01
		NO_x	0.02	<0.01
16-1-2	Flare Normal Operations	CO	0.34	1.48
		NO_x	1.41	5.86
		PM	0.09	0.40
		PM_{10}	0.09	0.40
		$PM_{2.5}$	0.09	0.40
		SO_2	0.01	0.03
		VOC	<0.01	0.01
		NH_3	0.44	1.70
	Depressurization Emissions to Flare (6)	CO	38.69	0.17
		NO_x	287.62	5.15
		SO_2	0.05	<0.01
		VOC	0.48	<0.01
		PM	19.90	0.40
		PM_{10}	19.90	0.40
		$PM_{2.5}$	19.90	0.40
		NH_3	462.41	1.58
	Flare Startup MSS	CO	38.69	0.14
		NO_x	287.62	3.90
		PM	11.82	0.33

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name(3)	Emission Rates	
			lbs/hour	TPY (4)
		PM_{10}	11.82	0.33
		$PM_{2.5}$	11.82	0.33
		SO_2	0.04	<0.01
		VOC	0.38	<0.01
		NH_3	138.93	0.85
	Flare Shutdown MSS	CO	20.15	0.03
		NO_x	238.53	0.61
		SO_2	0.02	<0.01
		VOC	0.20	<0.01
		PM	19.90	0.05
		PM_{10}	19.90	0.05
		$PM_{2.5}$	19.90	0.05
		NH_3	462.41	0.28
	Ammonia Recovery System Maintenance Emissions to Flare	CO	7.70	0.28
		NO_x	8.20	0.30
		SO_2	0.01	<0.01
		PM	0.11	<0.01
		PM_{10}	0.11	<0.01
		$PM_{2.5}$	0.11	<0.01
		VOC	0.08	<0.01
		NH_3	5.40	0.19
	Ammonia Catalyst Reduction Emissions to Flare	NO_x	49.58	4.02
		PM	0.36	0.44
		PM_{10}	0.36	0.44
		$PM_{2.5}$	0.36	0.44
		NH_3	2.98	0.25
16-1-3	Ammonia Start-Up Heater MSS	CO	3.52	0.53
		NO_x	3.42	0.51
		PM	0.72	0.11
		PM_{10}	0.72	0.11
		$PM_{2.5}$	0.72	0.11
		SO_2	0.06	0.01
		VOC	0.48	0.07
		Lead	<0.01	<0.01

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter

Emission Sources - Maximum Allowable Emission Rates

CO - carbon monoxide
NH_3 - Ammonia

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Controlled depressurization activities are only authorized if they are conducted in accordance with Special Condition No. 17.

Date: August 30,2017